2019

# Developing a model for effective community development agreements in the extractive industries

John Nikolaou

Claremont McKenna College

# Developing a model for effective community development agreements in the extractive industries

Submitted to

Professor William Ascher

By

John William Nikolaou

For

Senior Thesis

Spring 2019

April 29th, 2019

## Acknowledgements

I would like to give my sincerest thanks to Professor William Ascher for supporting my personal and intellectual growth over the last few years. Bill ignited my interest in natural resource management and development policy and has taught me how to think critically and creatively about issues in these fields. His teachings have given me an incredible foundation for a lifetime pursuing solutions for using natural resources for sustainable development.

I would also like to thank the CMC Government Department and its Chair, Professor Andrew Busch, for never hesitating to support the opportunities I have had to present my research internationally. These experiences have been fundamental to my growth as a scholar and a public speaker.

My greatest gratitude goes to my family who have given me more support than I could have ever asked for during my time at CMC. Whether it was calling me to celebrate during moments of success, or sending me reassuring messages during times of self-doubt, their support has been unwavering and their love unconditional. I could not have done this without them.

Natural resource development has tremendous potential to create inclusive economic growth in countries well-endowed with oil, mineral, and agricultural resources. At the same time, natural resource development can cause negative environmental externalities, and, in several cases, extractives companies can engage in labor abuse. Given that nearly all governments of countries around the world own all subsurface mineral rights, the government maintains the responsibility to interface with, negotiate with, agree with, and ultimately regulate the private firms that develop the countries natural resources. This responsibility is complex at each of its stages, and throughout this process the government must consider the aggregate economic, political, and social interests of its citizens.

On the other hand, the private firm's foremost concern is with creating shareholder value, though considerations of the wellbeing of local communities factors into efforts to promote corporate social responsibility (CSR). The intersection of the government's and the corporation's interest can lie in CSR agreements which are tagged on to resource development agreements and can include building schools or clinics for local communities. Such projects are often subject to corruption, however, especially if the government is solely responsible for managing the funds and implementing the plans.

This thesis will analyze an alternative model of CSR: community development agreements (CDAs). CDAs are voluntary, or sometimes government mandated, agreements between the project developer and the project affected community that define company commitments to issues such as environmental impact mitigation, benefit sharing, and local employment, for example. The objective of this thesis is to review the

theoretical underpinnings of CDA process, analyze the application of CDAs in several case studies, and develop a framework of best practices for CDAs based on those analyses.

## Introduction

The study of the extractive industries is multifaceted and complex. There is substantial literature on how governments manage resource revenue, the "resource curse," corporate social responsibility, the social and political implications of resource extraction, and the environmental effect of resource extraction. All these topics are applicable to any resource extraction project in any country. This section will review the impacts of resource extraction projects in order to identify what issues a CDA aims to address. The United Nations Environment Program proposes a two part system to understand the environmental and social impacts of resource extraction: primary impacts, which are seen at the site of the extraction or immediately adjacent to it, and secondary impacts, which occur in response to the infrastructure development associated with the extraction project, and can include population displacement and impacts on the local economy (UNEP).

The primary impacts of resource extraction are readily apparent and can include environmental impacts such as soil degradation, unsustainable logging, polluting of the water table, and more (Cameron, & Stanley, 2017). The threat of these impacts can begin to reveal themselves even before a project begins. For example, an Ernst & Young survey of risks facing the mining business showed that "access to water" was in the top ten concerns for businesses (UNEP). Water is a key part of any mining operation both from an operational standpoint and a logistical support one as well. However, in arid areas

where local populations struggle to access water, a large mining project can pose a threat to an entire region's water access. In Chile, for example, there exists a difficult paradox where the most arid regions in the country are also home to the largest mineral deposits and mining operations (Aitken et al., 2016, Pg. 128). While this case may be an outlier, the agricultural sector is a widespread example of a water intensive industry that requires significant water resources wherever the project is located. Even in areas where surface water is readily accessible, a significant diversion of water resources can affect the local ecosystem.

Population displacement and conflict are examples of negative secondary impacts of resource extraction (Franks et al., 2014) Downey proposes a theoretical explanation for why resource extraction is often associated with conflict: those who control the extraction of a resource have a degree of institutional, organizational, ideological, legal and or technological advantages that gives them great power over others. This power inequity can result in violent conflict between the resource extractor and any group that is perceived to threaten the extractor's legitimacy (Downey et al., 2010, Pg. 419). Their study surveyed ten minerals critical to the U.S. economy and determined that, over the past decade, the countries from which the United States sources its mineral supply from have seen significant rates of state and non-state violence associated with mineral production. Their study cites examples ranging from state-paid thugs beating protesters in China who organized against an SOE polluting the local environment through manganese mining, to West Papuans in Indonesia being racially discriminated against by the government forcibly removing them from their land to make way for copper production. In other cases, this power inequity can lead to forced labor or labor abuse.

A further complicating factor is state complicity in such abuses that can stem from misaligned interests between the state and a foreign corporation, for example, or between a national and local government. A recent example is the booming bauxite sector in Guinea. The sector is driven by government joint ventures with Chinese, American, and Australian multinational mining companies. Global demand for bauxite is soaring, which has led to increased production in Guinea and, as a result, increased government revenues. However, this ramped up production has occurred with the backdrop of the government failing to finalize regulations that establish compensation standards for local land acquisitions by the joint-ventures operating the projects. As a result, the mining companies have exploited ancestral farmlands, reduced river water levels, and caused bauxite dust storms, all without any legal obligation to mitigate these problems (Human Rights Watch). In cases where one-time compensation is paid to locals, there is the issue of gender representation: while women do the majority of the farming in these communities, male heads of families or male community leaders receive the compensation (or employment) from the mining firms and often fail to pass along these benefits. Human Rights Watch claims that the government "does not have the personnel, resources, and political will to effectively oversee an ever-expanding list of projects."

Issues with migration are related secondary impacts of resource extraction as well. When populations migrate to areas where resource extraction projects are happening in search of jobs, for example, there is an inevitable strain on local resources and local economies. This process is laid out by Fleming and Measham: an inflow of temporary workers can crowd out local labor and firms and divert labor from other industries such as agriculture and mining; new labor and income streams increases demands for local

goods such as housing, and this in turn increases the price of these goods (Fleming & Measham, 2013, Pg. 15). This process can have significant effects on local economies, whether it be a declining agricultural sector in Ivory Coast due to seasonal artisanal gold mining, or soaring housing prices in the Midland, Texas due to the influx of workers looking for high paying fracking jobs in the Permian Basin. Local communities can also be in conflict with these migrant workers since locals can see them as competition for the new high- paying jobs. In some cases, these conflicts are expected to occur in the long term but are yet to play out. Mining development in Mongolia, for example, could generate up to $5.2 billion in annual revenue for a country whose current GDP is nearly $4 billion and that faces sharp disparities between its rural and urban populations. While the mining development can benefit the impoverished rural communities with jobs and government revenue for infrastructure development, the planned mines could also threaten the availability of grazing lands in herder communities, promote overgrazing to meet the inevitably increasing demand for animal products by the influx of laborers, and trigger conflict between displaced herders and foreign mine workers (World Bank 2009). These trends might take years to materialize, however.

A secondary impact of resource extraction that can be commonly found in many cases is the unequal distribution of economic benefits stemming from the project. Theoretically, whether it is the state through an SOE or a private corporation exploiting a resource, taxes and some form of royalty flow to the national government. The national government then in turn uses those funds as part of the national budget, which ideally includes programs to alleviate poverty and protect the environment, especially in areas where such programs are needed the most, which can include the project-affected area.

This system can break down in many ways, however. One way is poor fiscal regimes between the national government (the resource owner) and the extracting entity, be it an SOE or a private company. If the fiscal regime is poorly designed in a way that undervalues the resource, for example, the state will not fully benefit from the resource development. If the government neglects to collect the revenue, the value of the resource will most likely not flow back to the project affected community. Finally, if the fiscal regime is sound, and the government collects and puts the revenues toward the national budget, but the poverty alleviation and environmental protection programs enacted are poorly designed, the resource development can be argued to be a bad deal for the people with little economic return.

There have been many different approaches to solving these problems. One model employed in Peru attempted to decentralize natural resource management to subnational governments and agreements that private companies reached independently with those governments (Arellano-Yanguas, 2011, Pg. 620). This drive is based on a political suspicion of large-scale state institutions and a favoring of dispersing power to more representative subnational levels of government. Peru embraced this approach in its mining sector but faced unintended consequences: local political conflict increased in proportion to the extent of resource rent devolution, which was directly correlated to mining company activities in that region, resulting in great regional disparities in resource rent. Further, this practice created a principal-agent problem since while the resource rent went to local governments, all relevant mining regulations were made by the central government. Given this disconnect, local politicians had no incentive to preserve or coordinate their spending with the central government, mobilized people

against mining companies, and pursued their own political agenda using the revenues. Arellano-Yanguas draws several policy conclusions from his study, several of which relate to community development agreements and will be explored in this thesis.

One of the most publicized accounts of a resource extraction project that had widespread primary and secondary impacts is Chevron's oil production in the Lago Agrio oil field in the Ecuadorian portion of the Amazon. From 1972 to the early 1990s, Texaco, now a subsidiary of Chevron, produced over 1.7 billion barrels of oil from the field (Feige, 2008). During this same period, the project spilled 16 million gallons of crude oil into the local environment and discharged 18 billion gallons of toxic water waste into local waterways and left some in open pit pools. The project made Chevron more than $20 billion in profit during its two decades of operation. While some remediation was performed by Chevron in 1995 and many waste water pits were capped, the contaminates are still leaching through the soil and into the waterways. The water pollution caused by this project significantly affected the local communities that depended on the rivers and streams for drinking, bathing, and fishing. Further, it has been found that pollutants in the water have led to increased rates of cancer among the locals drawing from the polluted streams (Forero, 2003). The 30,000-member class action lawsuit that has resulted from this tragedy has dragged on for more than two decades now, with denials of responsibility, falsified data, corruption allegations, and more being thrown by both sides of the case. The current judgement stands at $9.5 billion in damages which Chevron has refused to pay, citing corruption in the process leading to this judgement (Chevron Policy, 2013). Specifically, Chevron claims that when it ended its partnership with the state oil company in 1980, it ceded its cleanup responsibility to the state oil company and

Chevron cleaned up “its share” of the pollution. Chevron now claims that the rest of the pollution is the state oil company’s responsibility, and special interests have concocted a case against Chevron to target its “deep pockets” rather than focus on the facts. Either way, this case has garnered international attention and is a telling example of how without agreed upon regulations, impact mitigation techniques, and responsibilities, the primary and secondary impacts of resource extraction can spiral out of control, to the detriment of local communities.

Another major example of the primary and secondary impacts of resource extraction is the ongoing conflict in the Niger Delta, where Shell, Chevron, local communities, and militant groups have clashed for years, resulting in high levels of pollution from oil spills. Nigeria is West Africa’s largest producer of crude oil, and the Niger Delta region in particular produces over 2 million barrels per day alone. This region was ripe in biodiversity, with swamps and mangroves hosting an array of marine life which the local people have fished for decades. Since the early 1960s, however, oil production in the Niger Delta has resulted in thousands of oil spills that have polluted thousands of estuaries. As a result of environmental damage, poor fiscal regimes, government corruption, and widespread disenfranchisement, local militias have taken matters into their own hands and attacked Shell and Chevron pipelines and infrastructure, perpetuating the pollution. The multitude of ethnic groups contained in the Delta have also come into conflict in their drive to secure some kind of monetary benefit from oil for their people. The Ogoni people in particular entered into a struggle with the Nigerian government and Shell that resulted in well-documented human rights abuses on the part of the government (Terminski, 2012). Conflicts perpetuated by ethnic groups, militias

comprised of unemployed and disaffected young men, and the state continue to this day, with practices such as bunkering (illegally siphoning off oil from pipelines), kidnappings, and infrastructure destruction showing no promises of ending the violence and pollution that has plagued the region.

The primary and secondary impacts of resource extraction can threaten to derail the great positive economic and social potential of any natural resource extraction project. Whether they be environmental, social, or economic, the conflicts that can arise from resource extraction must be of chief concern to both the government and the project developer. This is because local resistance to a project or protests against environmental damage can completely inhibit the project's development to the detriment of the national government, the project developer, and the local communities. Without a coherent framework for mitigating these negative impacts before a project begins, not after the damage has been done, any resource development project can be subject to substantial pushback sometime during its lifespan. A common factor among all the cases mentioned in this section so far is the isolation and resulting discontent of local communities. Even in in the Peruvian case, there was still a disconnect between the local people and the local government. Investment and resource development agreements between national governments and developers that glance over, do not consider, or do not consult the local communities in project affected areas are bound to contain oversights that result in one or more of the negative primary and secondary impacts mentioned in this section. A solution to this problem that will be explored in the following chapters is the community development agreement (CDA) model, whereby a resource developer negotiates and

comes to an agreement directly with local communities before a project begins.

## Overview of Community Development Agreements (CDAs)

The goal of a CDA is to ensure that local communities benefit from a large-scale investment project like those carried out in the resource extraction industries. CDAs work toward this goal by setting out how a project-affected community will participate in the benefits of the project. In some cases CDAs are required by domestic law, though in the majority of cases project developers voluntarily enter into these agreements with the project-affected community (Loutit et al., 2016). The United Nations' Human Development report has noted that extractive industries expansion tends to occur in the historical territories of indigenous peoples who usually locate themselves in watersheds and areas of rich mineral resources (Fernholz, 2010). The importance of CDAs can be understood through the lens of free, prior, and informed consent (FPIC). FPIC is an internationally recognized right of indigenous peoples, as declared by the UN Declaration on the Rights of Indigenous Peoples and is an extension of indigenous communities' right to self-determination. Each aspect of FPIC provides a framework for the CDA process: *free* consent, meaning consent given without coercion or manipulation; *prior*, meaning consent being sought sufficiently in advance of commencement of activities; *informed*, meaning that the information gap is consistently narrowed through the process; and *consent* defined as a collective decision reached through a decision-making process of the community (FAO). These standards are expected in each phase of the CDA process as outlined by the Columbia Center on Sustainable Investment, which will be discussed in the next section. However, it is important to note that there exist relevant critiques of the

concept of FPIC. For example, many development finance institutions use the concept of free, prior, and informed *consultation*, rather than consent (Fernholz, 2010, Pg. 244). This is a critical difference in interpretation that has important impacts on how FPIC is carried out. The discussion of CDAs fits into the framework of corporate social responsibility (CSR), which is a topic that encompasses all of the ways that a corporation can better adhere to international standards on social and environmental rights. Within CSR is the idea of a social license to operate (SLO), which is a tacit or in some cases explicit approval of a project from a community (Boutilier, 2014). SLO conceptualizes community acceptance of a project as a "license" that a company must be granted and that can be revoked by a community if the community no longer approves of the project. A CDA can be a manifestation of an SLO, but it may not be enough to fully earn the trust and approval of the project affected community (Boutilier, 2017).

## Applying Coase Theory to CDAs

Conceptualizing the CDA process through the lens of the Coase Theorem can lead to conclusions about what the parties to a CDA (namely the company, the community, and the national government) have to offer, and what they can concede as well. The Coase Theorem holds that in a system of well-defined property rights and sufficiently low transaction costs, the bargaining will lead to a Pareto efficient outcome. For example, if a polluter and a person suffering from the pollution negotiate and the victim of the pollution has equal property rights, the polluter may agree to compensate the victim, essentially purchasing the right to pollute. According to the Theorem, this outcome is optimal and efficient, the externalities become internalized, market failure is avoided, and

the need to involve a third-party arbitrator like the government's court system, for example, is avoided. Critiques of the theorem include the assumption that property rights are fairly preestablished by the government, and the fact that environmental externalities, for example, are indirect and cumulative, making the transaction costs of negotiating an optimal outcome high. There is also the issue of obtaining good information without government involvement.

In the case of CDAs, the intertemporal nature and large-scale impact of a resource extraction project do pose significant transaction costs to reaching an optimal agreement. An optimal CDA can be reached, however, if every party is aware of and willing to accept certain tradeoffs. One critical precondition, however, is the ability to establish clear property rights. When a national government is inviting private resource extraction companies to develop what the government sees as "open and empty" land, there is an immediate distortion to the Coasian approach to negotiations. The national government must recognize and make diligent efforts to protect indigenous land rights, or the land rights of the peoples living in the project affected communities. If the national government does this, then the company, the government, and the communities are closer to the scenario of equal yet competing property rights described by the Coase Theorem. Before tradeoffs can be discussed, the transaction costs of the bargaining process must be addressed.

The project developer can take the initiative to absorb the transaction costs associated with reaching CDAs. This shows their faith to the process by being willing to pay the financial costs of the CDA process. Certain distortions can arise if the company is

the one directing the process, however. For example, the company can simply refuse to pay for legal representation for a certain community or conduct a purposefully skewed internal study to determine the size of the project affected community (concluding that the community is small, for example, to save the costs of resettlement). If a community's only source of information is the project developer, the community runs the risk that it will receive inherently biased perspectives on the costs and benefits of the project. This may also be the case if the transaction costs are shared by only the national government and the company: in many cases the two parties have the same interests of getting the project started as quickly and as profitably as possible. Given these concerns, there are ample reasons for the transaction costs of the bargaining process to be shared by the national government, the community, the company, and third parties, such as NGOs. Communities do not need to rely on a single party for financing or information in this scenario. If property rights are recognized, transaction costs are shared, and all relevant parties are brought to the proverbial table, the CDA process can be undertaken in a Coasian framework of tradeoffs between equally situated parties.

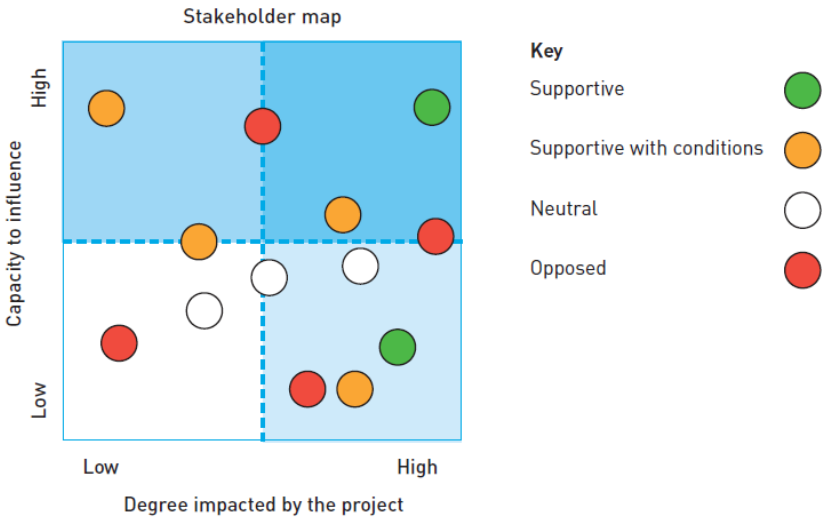
The highest transaction costs involved with resource extraction projects, however, are those associated with information gathering and addressing information asymmetry. Information among the project developer, the government, and the local community can result in agreements that outwardly favor one party over another. When a resource extraction project is taking place in a developing country, there is a higher chance that the firm undertaking the project has a significant informational advantage over the relevant government agency and the local community. For example, the size of mineral reserves is a critical issue for negotiations, but firms often have more data and surveys regarding

reserve estimations than national mineral agencies (Osmundsen, 1998). This problem can also exist on the local level, since communities may not have the means or expertise needed to evaluate key documents in the negotiation process such as environmental impact assessments. These gaps in information and capability lead to unequal bargaining positions, and this prevents negotiations from occurring within a Coasian framework. Solutions to resolve this asymmetry can include efforts to provide for community representation as described in the previous paragraph in addition to specific provisions within a project agreement. For example, a sliding scale payment system that adjusts to factors such as production rates and fluctuating commodity prices.

## Components of the CDA Process

The first phase of the CDA process is to conduct extensive research and consultation to define the project-affected community. While this may be an easier process in countries where there are defined legal land rights, in areas where land rights are not enshrined in legal documents there is the issue of overlapping claims to land rights and inherited land. In some communities, for example, the community is defined by broad family relationships and shared culture rather than legal rights to land, and their cultural ties to the land may be strong even if they do not currently reside on the land. Determining which communities should be represented in the CDA process can therefore require ethnographic and anthropological research, cultural heritage assessments, indigenous water use studies, labor market studies, and gender analysis studies, for example (*Why Agreements Matter*, 2016). It is also crucial to consider "downstream" communities, or communities that are not located near the project but nevertheless are impacted. For

example, the CDA for the Hidden Valley Gold Project in Papua New Guinea defined "affected communities" as those within the immediate geographic area of the project, but also those that would be affected by increased traffic on the main highway and those that used the river downstream of the project (Loutit et al., 2016). Performing an institutional analysis is a critical step in defining the community, since the most important institutions in the community may not be obvious. For example, when an institutional analysis was performed on a fishing village in Guinea-Bissau that was affected by nearby development, the FAO found that the village committee, various labor groups, and the church were more important institutions than the municipal leaders or the business community (*Community Development Toolkit*, 2012, Pg. 99). Finally, once the project-affected communities are identified, the company still must determine who will participate in the negotiations on behalf of these communities. It is crucial that these representatives have the backing of the community and that potentially marginalized groups, like women, are represented as well. The International Council on Mining and Metals (ICMM) proposes a matrix to determine the appropriate levels of engagement for each stakeholder during this process. This matrix evaluates two primary factors: how much the project will affect the stakeholder and how much influence that stakeholder has in the community. Thus, the developer can determine what level of engagement is necessary for the given stakeholders. These levels can include consultation, partnership, or involvement in community monitoring, for example (*Community Development Toolkit*, 2012, Pg. 54).




*Why agreements matter,* 2016, Pg. 54

Some scholars propose a simplified model of distinguishing between "vested" and "non-vested" stakeholders (Wilburn & Wilburn, 2011). Vested stakeholders are defined as those who have a right to a tangible possession in the project affected area such as property, or a right to resources such as water and arable land. These stakeholders have deciding votes on whether or not to grant a company the social license to operate and let the project move forward. On the other hand, non-vested stakeholders only have voices in the discussions and influence the decisions of vested stakeholders. Importantly, however, non-vested stakeholders, such as an advising NGO, cannot directly stop the social license to operate from being granted by the vested stakeholders. While this model is useful for defining the role of NGOs and community advisers, it equates "voting" on the social license of a project with equal expression of all view points within a community. The distinction should rather be between informal and actual influence on a decision-making process. It cannot be assumed that a community is made up of diverse yet equally

represented interests. Every community has at least one outsized influence, for example a prominent local businessman who employs the majority of a town.

The next phase of the CDA process typically involves formalizing the definitions reached about the community, the timeline and format of negotiations, and other logistics for the negotiation process, including how it will be funded. These pre-negotiation agreements are typically enshrined in one or several memoranda of understandings (MOUs). Pre-negotiation agreements on funding are critical to the CDA process. There are typically roles for company funding, government funding, and funding from multilateral instructions and NGOs. This funding goes to capacity building programs for the local community, fees for external advisers and experts that the community must engage, and cultural awareness training for company staff. Determining how the negotiation processes will work before they begin is key to ensuring that stakeholders are engaged in a consultative way rather than stakeholders being passive recipients of engagement activities. Engagement can be formal or informal and include information disclosure, public meetings, interviews with specific stakeholders, community liaison team members, appointed grievance mechanisms, newsletters, open houses, annual or quarterly targeted consultation, perception surveys, and participatory monitoring (*Community Development Toolkit*, 2012, Pg. 57). A study found that the quantity and quality of the contact between company officials and community members were directly correlated to the community's perception of the project (Moffat & Zhang, 2014). It is important to note, however, that this correlation can go both ways: if the contact of the company with the community is of low quality and infrequent, and the community perceives the consultative process as unfair, then the community is less likely to view the

project as socially beneficial and to trust the company. Once a consultative process is developed and agreed upon, the company can engage in a social impact assessment (SIA) that seeks to develop strategies to mitigate major social issues that may be brought about by the project. The goal of an SIA is to provide solutions that bring the impact on social infrastructure to an acceptable level for the project affected communities (Moffat et al., 2014). The potential components of an SIA will be discussed in the next section.

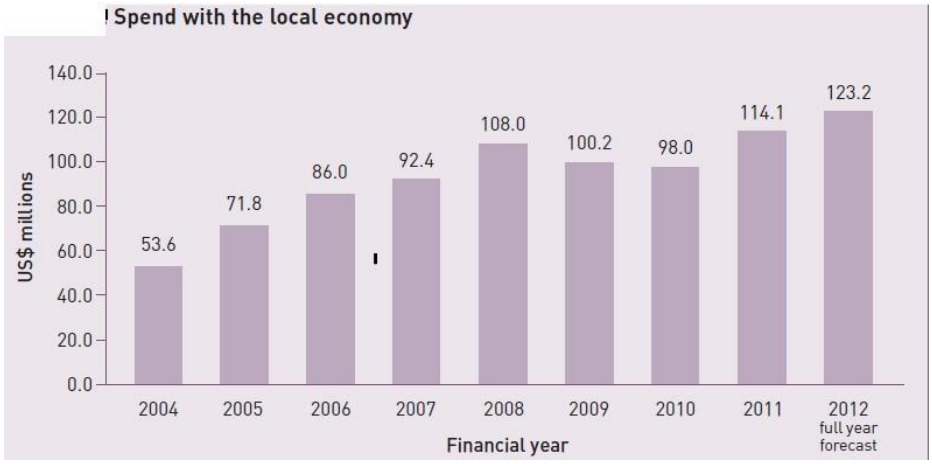
The negotiation phases of the CDA process can cover several agreement components, including financial, employment, environmental impact mitigation, governance, and reciprocal agreements (*Community Development Toolkit*, 2012, Pg. 167). Each component of these agreements will be discussed below, drawing from Rio Tinto's "Why agreements matter" and the ICMM "Community Development Toolkit." The ICMM was developed to bring mining companies together to improve safety performance and the development impact of mining sector. Members include the largest mining companies in the world, including Anglo American, BHP Billiton, Codelco, Freeport-McMoRan, Glencore, Gold Fields, and Rio Tinto. The values and principles of the ICMM include environmental safety, cooperation between people and companies involved, effective communication and engagement with stakeholders, social and economic development, respect for people, cultures, and human rights. The Rio Tinto guide was developed in partnership with the Centre for Social Responsibility in Mining (CSRM), which is part of the Sustainable Minerals Institute at The University of Queensland. The CSRM was initially founded in 2000 by "over 20 international mining companies and other commercial and non-commercial sponsors." The Queensland State

Government also funded the Center with a $10 million grant (Sustainable Minerals Institute).

Rio Tinto lays out four different options for formulating financial payments: single up-front payments, regular fixed payments, payments based on land distribution, and payments based on operational outcomes. The benefits of up-front payments include all parties knowing how much money will be involved from the outset which allows for planning that can enable the community to achieve long-term returns on the received capital. At the same time, it is difficult to factor in the ongoing costs and ongoing benefits that the project generates over its lifetime. Regular fixed payments provide the community with a regular income stream that is not vulnerable to unanticipated changes to the project's impact, scale, or profitability. The downside to agreed-upon fixed payments, however, is that they may not keep up with inflation (without some kind of inflation adjusting mechanism) and they are not sensitive to unanticipated *increases* in project revenues, which is the rationale for payments based on operational outcomes. Payments based on land distribution directly quantify the project's impact on the land and compensate the local community for this impact. Finally, payments based on operational outcomes can be calculated using percentages of EBIDTA that have caps and floors, or royalties based on the volume of production or the value of the production. Such payment formulae give the community a vested interest in the project's success and the inclusion of caps and floors help insulate the community from market fluctuations. It is important to note, however, that these payments would still fluctuate by nature of their linkage to the project's revenues, which is bound to fluctuate (*Why agreements matter*, 2016, Pg. 76).

Local economic investment components to community development agreements can include financial mechanisms like those described above, but also local content provisions that include local procurement and employment agreements. The aim of these provisions is to create economic stimulus in the project affected community that extends and is sustained independently of the resource extraction project's direct benefits. This stimulus can include project-related employment, local business capacity building that creates more opportunities for local procurement, and capacity building to support non-project related businesses that can sustain the local economy after the project ends (*Community Development Toolkit*, 2012, Pg. 173). Local employment can be achieved by first performing a skills audit of the community to determine what skills are present in the local labor force and what skills can be developed. This can lead to direct employment at the project site. On a secondary level, contractor requirements from the company can mandate that local companies receive preferential treatment in the contracting decisions. BHP Billiton, for example, employed a comprehensive local procurement strategy for their Mozambique aluminum operation. The project was responsible for seven percent of the country's GDP within a few years of beginning operations. To encourage the development of the local economy, BHP Billiton founded a training program to develop small and medium-scale enterprises (SMEs) in sectors that were not only complimentary to the project but could also find customers other than BHP Billiton. They then established "MozLink," which serves as a database to connect suppliers and consumers, post procurement requests, and generally facilitate the development of the private sector (*Why agreements matter*, 2016, Pg. 177). The result of the combined capacity building, establishment of a platform for commerce, and subsequent improvement of quality due to

international competition led to a steady increase in the amount of money BHP spent within the local economy:

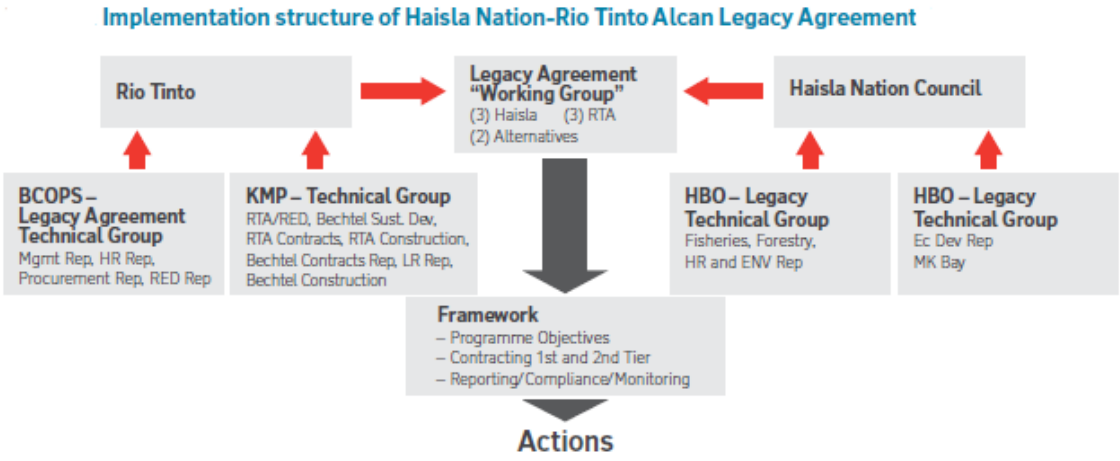



*Community Development Toolkit*, 2012, Pg. 177

Measures to mitigate the environmental impacts of a resource extraction project are of foremost concern to local communities and project developers. The process of evaluating the potential environmental impacts of a project and the concerns of the local community begins in the engagement and consultation phase. The allocation of responsibilities for monitoring and remediation occurs during the negotiation phase. It is also important for there to be consensus on environmental baseline data and assessment tools.

The governance components of the agreement refer to the system through which the entire agreement will be monitored and reviewed. The governance body is often comprised of working groups that include the identified community leaders, government representatives, other members of civil society, and company representatives. Below is an example of the governance structure for an agreement Rio Tinto entered into with the

Haisla people in British Columbia regarding Rio Tinto's extensive aluminum operations on their land.




*Why agreements matter,* 2016, Pg. 97

Governance of the financial benefit distribution is particularly important. The company and the community must ensure that the financial benefits are received, managed and distributed by an agreed-upon body that represents the beneficiaries, that the funds are channeled to the community for their intended purpose and not to private individuals, and that the disbursements are publicly reported and regularly audited (*Why agreements matter,* 2016, Pg. 77).

Reciprocal agreements refer to obligations that the community owes to the company that complement the company's obligations to the community. For example, in one Rio Tinto agreement with aboriginal communities in Australia, Rio Tinto is required to increase spending on employment and training programs if Aboriginal employment targets are not reached according to a predetermined timeline. However, these spending increases are not triggered unless local Aboriginal schools reach their promised

educational outcomes. This arrangement recognizes the reciprocal responsibility of the school system and government to fulfill their responsibility of educating the future work force that Rio Tinto can then draw from for their employment programs (*Why agreements matter,* 2016, Pg. 96).

Including measures of performance to be monitored throughout the life of the agreement is crucial to evaluating the success of an agreement. These measures of performance must be quantitative and qualitative, as Rio Tinto notes: "achieving targets is not the only goal of agreements. Ultimately, community perceptions regarding whether or not the 'value exchange' in an agreement is being achieved are shaped by how people view outcomes and impacts" (*Why agreements matter,* 2016, Pg. 106).

Both Rio Tinto and the ICMM report fall short when it comes to describing how to measure success, however, since both are focused on evaluating the success of implementing a certain process rather than evaluating the impacts of the outcomes of that process. The disconnect between these approaches lies in the fact if a resource extraction company follows the Rio Tinto guide and structures its recommended agreements, it does not automatically mean that the project will have a positive social, economic, and environmental impact on the community and there will be no discontent over the project throughout its lifetime and even after it closes. The solution is a more nuanced and critical evaluation of the success of a community development agreement, resting on evaluating factors beyond whether a process followed. This by no means implies that proposing and abiding by a process is unnecessary, but adherence to a process is not a

sufficient condition for deeming a community development agreement a success; a process is not tantamount to outcomes.

## Case Studies of CDAs

The next section will review several case studies of resource projects that employed community development agreements. The process of these agreements and the outcomes of the projects will be evaluated using a diverse set of perspectives beyond the given company's evaluation of its own success. The goal of this section will be to determine patters of best practices for creating and implementing community development agreements, and common shortcomings of community development agreements.

### Panguna Mine, Bougainville, Papua New Guinea

While no CDA was implemented for this project, the review will begin with the Panguna mine, since Rio Tinto claims that its experience operating this project was the inspiration for codifying its CDA policies as articulated in the guide reviewed in the previous section. Specifically, the guide states that the company's experience in Papua New Guinea (PNG) was one of the "defining moments in Rio Tinto's approach to community engagement" (*Why agreements matter,* 2016, Pg. 15).

One of the largest copper deposits in the world was found in PNG on the island of Bougainville in 1969. Rio Tinto, through its subsidiary Bougainville Copper Limited (BCL), soon negotiated an agreement with the PNG government to exploit the copper, and the mine began production in 1976 (*Mining (Bougainville Copper Agreement*),

1976). Under the agreement, the PNG government was a 20 percent shareholder in BCL, and the Bougainville local government received 5 percent of the governments share (Ewin, 1999). The mine, which at one point was the largest open pit mine in the world, required an estimated 300,000 tons of ore and water to be excavated per day. It is claimed that the amount of tailings dumped into the nearby river caused the river's levels to rise to such a point that the levy banks built to protect the areas adjacent to the river were breached early int the mine's development. As a result, polluted water often overflowed into residential and farm land during the mine's 17 years of operations (Wilson, 2017).

Boungainvilleans claimed that the PNG government neglected to enforce any environmental regulations on BCL since the effects were not "in the backyard" of the main island. They also argued that the revenue sharing mechanisms were unfair, since the Bougainville government received a fraction of the revenue from the mine while the community bore all the negative environmental effects. The mine revenue was certainly important to PNG since it accounted for 17 percent of the revenue generated by the newly independent country (Bougainville Copper Limited). The fact that BCL hired Australian and Papua New Guineans not indigenous to the island work the mine, and rarely hired the darker skinned Boungainvilleans, further angered the local community. Specifically, there was evidence of an "economic apartheid," whereby the mine paid local employees considerably less than either Papua New Guineans or Australian employees. The lack of action by the national government on the issues of pollution and revenue sharing led a local landowner to organize and demand compensation from BCL: they demanded $14.7 billion Australian dollars in compensation for environmental, even though the mine had only generated $6.2 billion in revenue over sixteen years of operations. When the

company inevitably refused, the locals militarized as the Bougainville Revolutionary Army and began a campaign of sabotage against the mine's facilities. The PNG government responded to the conflict and a decade-long civil war ensued, closing the mine in 1989, with all BCL personnel withdrawn from the island in 1990. A peace agreement leading to Bougainville's autonomy was signed in 2000 (Conciliation Resources).

The ongoing question of who bore responsibility for the environmental cleanup lingered, however. Rio Tinto, BCL's parent company, claimed that ever since it was forced to withdraw its personnel in 1990, it has been unable to access the mine to conduct a review of the alleged environmental pollution. The company also claims that the mine was operated "in compliance with applicable laws and standards until 1989 when it was required to leave the country" (Wilson, 2017). Further complicating Bougainville's ability to pin responsibility on Rio Tinto is the fact that in 2016 the company divested its majority share in BCL to the PNG government and to a trustee with the intent to distribute the shares to the now semi-autonomous Bougainville government. PNG has committed to transferring a portion of the shares it received from Rio Tinto to the Bougainville government as well. Rio Tinto's copper CEO said the divestment was intended "to provide landowners, those closest to the mine, and all the people of Bougainville a greater say in the future of Panguna" (Rio Tinto, 2016). While on paper these developments appear positive given that they assign the Bougainville government with a majority stake in the mine, the mine has not been operational for almost three decades now. A dip in commodity prices has lowered the value of the approximately three million tons of copper reserves remaining at the site. The price of copper must be

strong to make reopening the mine a compelling option, considering that the reconstruction required to reopen the mine is estimated to be US $6.3 billion (Wilson, 2017).

The Panguna mine is prime example of how when local community engagement is not dealt with at the onset of a project, retroactive remedies are bound to fall short of rectifying grievances. Considering the failures in environmental standards, local employment standards, and generally local representation in the mine development, it is critical to examine the original agreement between BCL and the PNG government to understand what factors contributed to the mine's negative environmental impact and the community's violent response to the project.

For a country like Papua New Guinea, newly independent at the time of the copper deposit's discovery, a project the scale of the Panguna mine was bound to have several positive impacts on the country. The first mention of the mine's benefits occurs in a section of the agreement that sets out certain mutually understood facts surrounding the agreement. The agreement stated that the government was satisfied that the mine's development will "bring significant benefits to the Territory in respect of revenues from royalties and other forms of taxation… and in respect of the economic and social development of the people through employment opportunities… [and] community development." (*Mining (Bougainville Copper Agreement*), 1976, Pg. 8). The "Territory" in this sense refers to the country as a whole (the agreement defines this) though the local Bougainville community is not specifically mentioned. Further, there is no direct employment or local content requirement set out in the agreement. This ambiguity was no

doubt a contributing factor to BCL's employment decisions, since it appears the only consideration for hiring locals was that BCL could pay them less than Papua New Guineans or Australians.

The agreement does contain a provision for providing compensation to the "indigenous habitants" of Bougainville Island in the event of environmental damage. It states that compensation can be provided by cash, facilities, benefits, or any other form that the company and the person in question agrees upon (*Mining (Bougainville Copper Agreement*), 1976, Pg. 26). There are no clear details on enforcement of this provision, and it appears that the individual would be wholly responsible for demanding such compensation, given that the agreement specifically mentions that no local government can levy any taxes or penalties on the company (*Mining (Bougainville Copper Agreement*), 1976, Pg. 18)

Rio Tinto's claims that, despite the evidence of widespread pollution, it complied with the environmental regulations set out by the agreement and that it is not responsible for the lasting environmental damage become more understandable upon reviewing the portion of the agreement relating to the environment. While the agreement does set out that the company may not dispose of tailings, waste, or displaced earth in areas not approved for such disposal, it provides a mechanism for the company to submit a proposal to designate a given area for such disposal. Importantly, it sets out that the Papa New Guinea administration, not specifically the local Bougainville government, will review the proposal while specifically keeping in mind "the need for the Company to carry out its said operations efficiently and economically" (*Mining (Bougainville Copper*

*Agreement*), 1976, Pg. 25). If an area is approved for tailing dumping, the company must conduct studies to measure the environmental impact of that dumping with the goal of ensuring that vegetation can be reestablished in that area in the future. Most critically, however, this is the company's only obligation related to rehabilitation: the agreement's sections on tailings and safety concludes with the provision that the company is not required to carry out "any further acts or works for the rehabilitation or restoration of any areas affected by its operations under this Agreement" (*Mining (Bougainville Copper Agreement*), 1976, Pg. 26). This would presumably cover any responsibility Bougainville is now claiming that Rio Tinto has for cleaning up the area, considering there is no stated statute of limitations.

These combined provisions for environmental damages clearly created the conditions for rampant environmental pollution to occur. If tailing dumping requests were being made from Bougainville to the PNG government hundreds of miles away on the main island, how could PNG government bureaucrats have made informed decisions on approvals, especially considering their directive was to consider the need for "efficient and economical" operations? It is important to note that PNG's recent independence around the time that the Bougainville agreement was signed and resulting need for revenue to strengthen its new governance, no doubt influenced the state to prioritize revenue flows to the central government and any provisions that would accelerate the project's development and motivate Rio Tinto to remain in the country. Given the resulting experience from this agreement, however, Papua New Guinea's more recent mining legislation has placed more emphasis on local community involvement in the

development process and more revenue flows to local institutions rather than the central government.

An example of this shift is the new Mining Act's approach for community compensation. In contrast to Bougainville agreement's community compensation clause, the Mining Act of 1992 establishes that the holder of a mining lease cannot "enter or occupy land for the purpose of mining until they have reached and registered an agreement with the project landowners on the amount, times and mode of compensation" Further, after the Bougainville mine controversy, the PNG government instituted a system of "Development Forums" to be convened before the Mining Ministry grants any "special mining lease" of a certain size. The purpose of these Forums is to bring together "persons who would fairly represent the views of the project developer; the landowners of the Special Mining Lease (SML) and other leases required; the national government; and provincial government." While this was a positive development in the direction of community representation, it is important to note that the Forum was for consultation, not modification of the development plan in question, and no party other than the Ministry had any right to veto decisions. However, the Ministry could ultimately decide to decline the granting of the lease (Bougainville Region, Papua New Guinea, House of Representatives, 2015).

The new PNG mining law also requires memoranda of understanding between the various levels of government affected by a given project that describes the distribution mechanisms and percentages of royalties to provincial institutions and landowners and the responsibilities for various infrastructure developments, for example. Lastly, the law

requires Mining Development Contracts between the developer and the *national* government that lay out the developer's commitments to financing relevant project infrastructure, public access rights to this infrastructure, and conditions for mine closure and environmental cleanup. These contracts may also require the developer to finance schools, hospitals, health centers, government offices, electric power supply, or waste water treatment plants, for example. There is no provision for local representation in negotiation of these contracts, however. (Bougainville Region, Papua New Guinea, House of Representatives, 2015).

**Argyle Diamond Mine, Kununurra, Australia**

The Argyle Diamond mine in northwestern Australia is the fourth largest diamond mine in the world by volume, producing an average of 8 million carats a year. Since mining began at Argyle in 1983, the mine has produced more than 95 per cent of Australia's diamonds (Pash, 2018). The mine is famous for the rare pink, blue, and red diamonds it produces. Several aboriginal communities inhabit the areas around the Argyle mine. Before diamond mining began in the area, bauxite mining operations displaced these communities, creating distrust between aboriginals and mineral project operators. The first commercial diamond operations around Argyle furthered this distrust, as the exploration company damaged sacred aboriginal sites. When Rio Tinto acquired this exploration company in 1998, it sought to implement a comprehensive CDA that would lay the groundwork for community engagement and participation in the mine's development and production. Six years later, Rio Tinto and a regional aboriginal representative body signed the Argyle Participation Agreement, which covers community

engagement, land-use agreements, and compensation matrixes, including the establishment of two community trusts (Australia National Native Title Tribunal, 2005). Rio Tinto takes pride in the negotiation process carried out for this agreement. In order to properly understand the claims of traditional ownership, Rio Tinto commissioned third party ethnographic surveys and continually consulted with aboriginal community leaders over the six-year period. The surveys and consultations helped Rio Tinto identify the traditional owners from the 11,500 aboriginal people and 198 communities that made claims. The study found the project-affected community consisted of 22 families from seven aboriginal communities that could claim original title to the land (*Why agreements matter*, 2016, Pg. 45). Land-use agreements were directly negotiated with these communities, and the two trusts were devoted to benefit the communities and their future generations.

The Argyle Participation Agreement is often referred to as a model agreement due to the comprehensive ethnographic studies Rio Tinto conducted and the community-led trusts it established. However, as the Argyle mine nears closure, there are concerns that the Agreement did not fulfill its potential and the local communities will end up in the same state of economic depression that they were in before the Agreement was signed. How could an Agreement that more than tripled aboriginal employment at the mine and contributed tens of millions to the community trusts have garnered so much criticism from locals? The structure of the trusts may hold the answer.

The Argyle Participation Agreement established two primary trusts: the Gelganyem and the Kilkayi Trusts, named after two of aboriginal groups affected by the

Argyle mine. The Gelganyem Trust has eleven trustees who include nine representatives of the seven aboriginal communities that Rio Tinto identified as "traditional owners" of the land surrounding the Argyle mine (*Why agreements matter*, 2016, Pg. 78). These trustees administer four funds within the trust that include sustainability, culture, and education funds. The Kilkayi Trust has two trustees and administers payments from Rio Tinto to individual families that are part of the land use agreements. Rio Tinto pays these trusts a percentage of the mine's profit, not revenue. While from 2012 to 2016 Rio Tinto made payments to the traditional land owners and trusts that totaled over $25 million, the fact that the payments are tied to profit makes them highly susceptible to commodity prices and manipulation. At least one source alleges that Rio Tinto has hidden profit by overreporting costs. How the money comes into the trusts, however, is not the only problematic aspect of their structure: the governance of trust spending is also of concern.

The trusts are administered by democratic councils that hold periodic elections for representatives of each aboriginal community. A position on the council has become very coveted since, as one Argyle resident explained, "if you control the council, you control the wealth, and if you control the wealth, you control the community" (West, M., & Smith, 2017). This power dynamic has led to infighting among the aboriginal communities who have seats on the councils. The allure of a council position greatly increased in 2013 when a key trust policy was amended: in response to consecutive years of losses and a devastating flood that affected several communities near the mine, the trust's council proposed that the trust provisions be amended to allow for spending on "items of personal nature." While this change was meant to allow for the trust to pay for the rebuilding of homes and the purchasing of supplies that were beyond the scope of the

initial agreement, this new policy has been abused by trustees and used to justify spending on lavish personal items (West, M., & Smith, 2017). In the three years since the policy change, "personal spending" has made up more than 50 percent of the trust's expenditures, with education, infrastructure, and cultural spending lagging behind. This shift in spending has also been accompanied by declining financial reporting standards from both trusts. One financial metric that is known, however, is that the sustainability fund is nowhere near its target. This is especially concerning considering that the mine is projected to close within the next two years.

The apparent collapse in accountability and commitment to the Argyle Participation Agreement's initial goals may be explained by the structure of the "Relationship Committee," which is the body in charge of governing the implementation of the agreement. The Committee consists of 26 "traditional owner" aboriginal representatives and four company representatives, and the votes are decided by a majority. The prerequisites for being a traditional owner representative on the committee are as follows: one must understand the land use agreements and plans, the operations and procedures of the mine, the written and oral reports of the committee, and one must understand how to assess budgets and financial statements (*Why agreements matter*, 2016, Pg. 97). In an area of systemic poverty and low education levels, these criteria leave a select few, an elite, eligible for a seat on the Committee. Thus, if the community elites are on the committee that oversees implementation, and the community elites are voted as trustees of the two trusts, how can the implementation committee possibly conduct objective oversight on trust spending that is clearly not in line with the Agreement's original goals? The community is further disadvantaged by the language

barrier, as one academic studying the case remarked, “how is somebody in Groote Eylandt, whose second or third language is English, [someone who] may not speak English fluently at all, supposed to make sense of an auditor's report?” The Relationship Committee tasks aboriginal representatives with conducting community meetings to communicate to the locals how the spending is being managed and how well the Agreement is being followed. Therefore, in addition to being unable to analyze spending reports themselves, local communities rely on the very representatives that may be misappropriating funds for the majority of their information about the Agreement. As payments to the trusts decline in the years leading up to the mine’s closure, there is an incentive for the traditional owners to further misappropriate whatever new resources come in before new payments to the trusts cease. The local community, on the other hand, is likely to be left with whatever funds are left, which in the case of the sustainability fund, are woefully inadequate to sustain economic development after the mine closes.

**Ahafo and Akyem Gold Mines, Ghana**

The Ahafo and Akyem gold mines produce over 800,000 oz of gold per year, making them two of the largest gold mines in the world. Newmont Mining Corporation, based in the United States, acquired leases to start these two mines in 2003 and production began in 2006. Since then, Newmont has invested over $2.4 billion in Ghana, paid over $700 million in taxes to the Ghanaian central government, and purchased $325.2 million in goods and services from Ghanaian suppliers in 2017 alone (Newmont Africa, 2017). The Ahafo project alone has a project area of 3,500 hectares of land and the 2005 impact

assessment conducted by Newmont estimated that nearly 10,000 people would be displaced by the project. Given the massive impacts these projects have on the community, Newmont developed an extensive local engagement and community development plan. While there are aspects of this plan should be applauded, recent community pushback against Newmont brings up relevant questions about the company's follow-through on its commitments to the local communities.

The Ahafo Social Responsibility Agreement serves as the guiding document for Newmont's community development efforts in Ghana. This agreement is governed by a forum that includes broad representation: the agreement requires an external moderator appointed by the forum and representatives from local chiefs, women's groups, NGOs, farmers, and youth groups. The Agreement covers the high-level community development goals, including local employment targets, land access and compensation management, and conflict resolution, though it often refers to external regulations that are "to be established," and recommends following "established practices" (*Ahafo Social Responsibility Agreement*, 2008). For example, with regard to land compensation, the Agreement stipulates that "where compensation has to be paid for…. anything affected by the Ahafo Mine Project… the Company shall negotiate the value of compensation with the person…. in line with the established negotiation practice," though that practice is not laid out. The Agreement does defer to Ghanaian mining law, which outlines a comprehensive process for land compensation and resettlement. The resettlement law describes a mandatory evaluation process that takes into account the loss of income depending on the type of crop, the loss of land value over the course of the mining lease,

and the cost of mitigating other disturbances caused by the mining operations, among other provisions (Ghana, Ministry of Mines and Natural Resources, 2012).

Newmont has compensated the project-affected people to the tune of US $920,000 for the loss of homes and over US $12.5 million for loss of farmland. However, there are claims that the company is not complying with the full extent of Ghanaian regulations for negotiating compensation. Some members of villages surrounding the project area feel as if their land is being "seized by fiat," since Newmont makes offers for land and farmland with little to no direct negotiation with land owners. Their impressions are understandable, since a Resettlement Negotiation Committee, comprised of representatives of the impacted residents, traditional leaders, government agencies, non-profit organizations and Newmont employees, handle all resettlement processes. Strict guidelines on "household" resettlement have resulted in the Committee denying resettlement and compensation to single mothers with children, for example.

The company built two resettlement villages for the displaced communities with a loan from the International Finance Corporation (IFC) of the World Bank Group. These villages were furnished with amenities previously unattainable to the local community, including running water systems and electricity access. These resettlement villages included hundreds of residential structures, several community centers and football pitches, and school systems for students from primary to junior high school (Newmont Akyem Development Foundation, 2016). These resettlement villages do not appear to have undeniably increased the community's quality of life, however: residents must pay for electricity access, and many cannot afford it, and reporters have documented instances

of Newmont tightly regulating the distribution of potable water (Jones, 2017). The project audit conducted by the IFC found that, among the resettled peoples surveyed, 21 percent said their new dwellings were healthier places to live, 21 percent said that their living conditions about the same as before, and 46 percent said that their new dwellings were less healthy than their original dwelling (Barclay, R., & Salam, T., 2015). However, the audit, which factored in multiple indicators of human development, economic livelihood, and agricultural data from before and after the resettlement program, concluded that the Newmont resettlement program for the Ahafo project "has a reputation as perhaps the best resettlement program yet undertaken in Africa," and "the auditors found much to support this view."

One aspect of Newmont's community development plan that contributed to this praise from the auditors was the Agricultural Improvement and Land Access Program (AILAP). This program is designed to help resettled farmers re-establish their agricultural livelihoods through assistance with finding new land and donations of farming inputs. The audit found that over 3,000 farmers participated in the program in its first two years of operation, and the program helped farmers gain access to an average of 2 acres a farmer, field inputs necessary for this amount of land, technical training, and business plan training (Barclay, R., & Salam, T., 2015). While this program has been successful in reestablishing displaced farmer's livelihoods, the two most common critiques of the program are that the resettlement program as a whole is selective in terms of which families qualify for land compensation, housing compensation, *and* resettlement, and that Newmont's questionable environmental record when it comes to accidental chemical discharges in nearby waterways negatively impacts all farmers, including those resettled

by Newmont. For example, a complaint lodged against Newmont by a community organization claimed that a farmer was denied resettlement because some of his relatives were previously resettled, so he did not qualify for a resettlement hous. Further, there have been several incidents of environmental negligence on the part of Newmont, including a cyanide spill in 2009 that severely affected the health of the local community and rendered some farm land unfarmable for months. This track record contributed to the widespread community skepticism when the Ghanaian government awarded Newmont with the "Best Performer in Environmental Management" award several years after this incident (GhanaWeb, 2017).

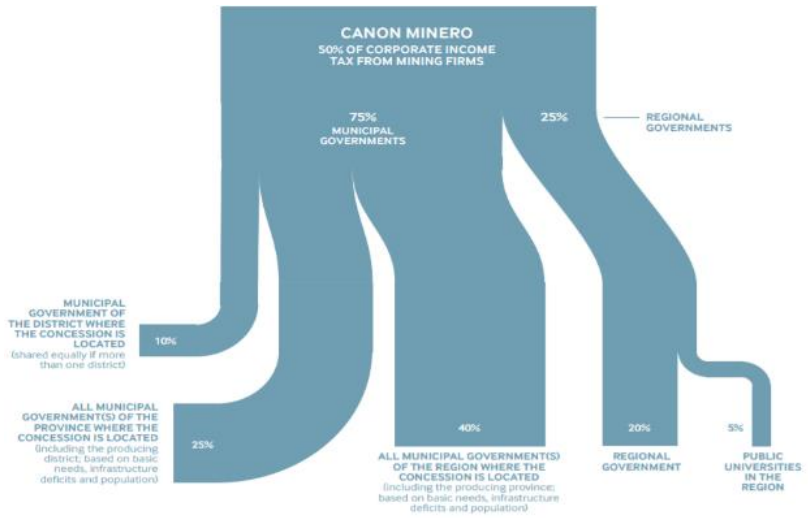
The Ahafo Social Responsibility Agreement also established to community foundations, the Newmont Akyem Development Foundation (NAkDeF) and the Newmont Ahafo Development Foundation (NADeF). The goal of these foundations is to support sustainable development through infrastructure projects, economic empowerment, local grant making, sports and youth development, and cultural heritage protection. These foundations are funded by Newmont contributing US $1.00 per ounce of gold sold and one percent of the net profit from the respective mine (Newmont Goldcorp). The foundations have accrued over $25 million combined through this system. NADeF completes an average of eight infrastructure projects a year, ranging from school construction to sanitation infrastructure like toilet facilities and washrooms. NAkDeF focuses on child education and funds scholarship programs for all levels of students and has awarded nearly a thousand local students with scholarships to date (Newmont Akyem Development Foundation, 2016).

Two common complaints against Newmont's operations in Ghana have been their negative impact on women and the perceived denial of access to traditional lands. In response to the former complaint, Newmont established the Women's Consultative Committee in 2008 to engage a wide spectrum of women in the community. The company also established a fund to economically empower women in the community through grants and small business services. The frustration over access to traditional land appears to be an issue of communication. The Ahafo Social Responsibility Agreement stipulates that the community has access rights to the area included in the mining lease, though "there are some areas which have restricted access for safety and security reasons because of the mining operations." The Agreement requires Newmont to produce an annually updated map of the restricted and unrestricted areas so that the local community knows where they can farm and travel in the area surrounding the mine. Despite these provisions, locals have complained that government police and Newmont private security have harassed locals at roadblocks and checkpoints (Jones, 2017)

**Mineral Revenue Sharing in Peru**

Community development agreements must take existing benefit-sharing agreements between national governments and communities into account. This is because CDAs give power to the local community but may put constraints on the national government by replacing existing agreements between the national government and the local community. These tensions exist within the broad policy debate over polycentrism and localist resource governance policies (Arellano-Yanguas, 2011, Pg. 618). Countries such as Peru, for example, have extensive subnational benefit-sharing practices codified in their law

that have been followed in practice for several years. By distributing a portion of mining royalties, corporate tax revenues (*Canon Minero*), and sub-surface access fees to regional and provincial governments, the national government seeks to share the benefits of the nation's mining industry with the communities that participate in the industry. Under the current system, the majority of the shared revenue comes from the *Canon Minero* (81 percent), while over 12 percent comes from royalties (Aresti, 2016, Pg. 3). In one municipal government in 2014, these benefits amounted to $471 per capita. Peruvian law stipulates that these shared revenues must be deployed by the subnational governments on investments that benefit their communities. Local governments have been critiqued for their performance in living up to these objectives, however, with multiple studies finding that the excessive local government funding created by this system encourages corruption, clientelism, and opaque government administration. Scholars argue that a decentralized system of resource governance that empower incumbents given local politicians incentives to maintain their access to resource revenues in any way possible, including through corruption (Andersson et al., 2004, Pg. 425). Even more concerning is the observation that when commodity prices rise, and revenue transfers to local governments rise along with them, political conflict becomes increasingly concentrated in Peruvian localities where mining operations are present (Arellano-Yanguas, 2011, Pg. 623). The distribution of the *Canon Minero* among the various subnational governments is illustrated in the figure below: `




*Aresti, 2016, Pg. 21*

A variation of this system was in place from 2006-2014. The "Mining Program of Solidarity with the People" (PMSP, in Spanish) gave mining firms in Ecuador the option to allocate 3.75 percent of their net income to special purpose community development funds. If they did so, companies received a discount on their royalty obligations to the national government. The government predicted that this new policy would result in a net increase in total revenue transferred from mining companies to Peruvian governments, be them national or subnational. Unfortunately, this program was abused by mining firms as a way to decrease their tax burden. For example, the development funds were administered solely by the company, not by the regional and municipal government as the PMSP called for. These funds also lagged behind their established goals of development spending. Despite not completing their obligations as required by the law, the firms were still able to discount their total tax exposure by participating in the program. The program resulted in a net decrease in total revenues collected by Peruvian governments. For these reasons, the PMSP program was replaced by special windfall tax provisions that were

eventually adapted into the current system through several policy reforms between 2011 and 2014.

This case provides important insights on the shortcomings of government-mandated community development initiatives imposed on extractive companies, but also government-run benefit sharing programs. Perverse incentives that must be managed exist in both kinds of programs. Further, the ability of mining companies to take advantage of the government's policy change toward more corporate driven community development demonstrates the risks involved with interposing new policies into already complex regulatory and policy frameworks. Regulatory complexity favors mining firms that have the expertise to adapt to complex regulatory and taxation frameworks, whereas communities and governments can be at disadvantages in the intelligence function. The best way for governments and communities to cope with complexity is to engage NGOs and other independent experts to provide additional negotiating capacity and expertise. Communities in particular may face decisions on how to balance corporate revenue sharing and government revenue sharing programs. If there is $1 million worth in revenue to be shared, for example, would the community prefer that half comes from the government and half comes from the corporation, or all of it from one source or another? The answer lies within the community determining its risk tolerance and confidence in each entity. Communities may favor stronger relationships with corporations, for example, due to a deep-rooted suspicion toward large authoritative political institutions (Arellano-Yanguas, 2011, Pg. 618).

**Discussion of Case Study Findings**

One theme present across several of these case studies is the importance of communication between the company and the community. Conflict arises when there are miscommunications of expectations and rules. In the Ghana case, for example, the community felt excluded from its ancestral lands by company security blocking roads in certain parts of the project area. The company was not violating any part of the CDA, however, as the agreement specified that community access to certain areas would be restricted, but the community would be updated and informed when a new area was put off limits. Therefore, in the few cases where community members reported being turned away from certain areas, it was likely a case of miscommunication between the company and the community. A CDA can be comprehensive, agreed upon, and considered fair, but if the requirements it places on the community are not communicated well, instances of perceived injustice can occur. Similarly, companies must strive to communicate expectations to communities with regard to the potential benefits the project can bring to the community. In the case of the Argyle mine in Australia, the community is now faced with the prospect of remaining in the same economic condition it was in before the mine was operational. This is because the project soon became uneconomical for Rio Tinto and production declined, which adversely affected the community, since the development trusts created by the CDA were to be funded by a percentage of mine profits, not revenues. While this can be seen as a flaw in the fiscal regime, as will be discussed in the next paragraph, it is also a case of miscommunication of expectations. It is not known if Rio Tinto communicated the susceptibility to commodity price fluctuations that a profit-based model creates, but it is important that the community understands the implications

of the given fiscal regime and manages its expectations accordingly. Reforms were made to the management structure of the Argyle trusts that allowed for the funds to be drawn down at a faster rate. Perhaps if the community better understood that the sustainability of the trusts was directly correlated to the profitability of the mine, they would have been more conservative in their management of the trust. The impetus to communicate the benefits and shortcomings of each model to the community falls upon the company, external advisers, and government officials.

Each case study contained a unique perspective on the importance of the fiscal regime applied to benefit sharing agreements. The agreement reached in the Ghana case study is the best example of arraignment that considers the differences between production and profit, as it requires the company to contribute $1 per ounce of gold sold *and* one percent of the net profit from each mine. The Peru case study demonstrated the tensions that can exist between national and subnational fiscal regimes. While the structure of the benefit sharing mechanisms in a CDA are clearly crucial, the case studies demonstrate that the management of the revenues the community receives from the project is perhaps even more important to ensuring that a community benefits from a resource extraction project. The case of the Argyle trust showed how one management structure reform can attenuate what was meant to be a multi-generational trust. The trusts established in the Ghana case, on the other hand, demonstrate how a well governed trust can deliver results to a community. The Peruvian model for benefit sharing resulted in the power of local elites being magnified, leading to patronism and more inequality in local communities. These varying outcomes demonstrate the importance of trust management

and accountability structures, and why CDAs must take community dynamics into account.

Another key takeaway from the Ghana case study in particular is that the more extensive the CDA is in scope, the more likely there will be problems. The Newmont CDA called for a resettlement plan of two villages worth of people. Newmont is in the mining business, not the real estate management business. While the resettlement plan was a crucial part of the CDA, given that the project was to displace so many home owners, problems with the resettlement were inevitable. This makes assessment of an extensive CDA difficult, since one must determine where to draw the line in deciding whether a program is successful or not. The fact that Newmont agreed to pay for a resettlement plan can be considered a success, as can the point at which Newmont constructed the villages. Do a few cases of poor infrastructure management in the village make the entire resettlement plan a failure? This would be a harsh determination, considering that the new homes provided the residents with a substantially higher standard of living than their original dwellings. Similarly, the Newmont CDA included many local content provisions that created jobs for Ghanaian workers and community members. There was a case reported of a worker who came from a different region of the country to work at the mine sexually assaulting a local woman. Newmont fired the employee and mandated sexual assault prevention training for all of its employees. Is it a fair criticism, then, that the CDA created violent labor dynamics between locals and non-local workers? Again, this would likely be a harsh determination to make since a CDA cannot cover all tertiary (and further) effects of a resource extraction project.

Lastly, these case studies demonstrate the benefits of enlisting external advisers to benefit both the corporation and the community. Rio Tinto's process of enlisting experts to conduct comprehensive ethnographic, anthropologic, and cultural heritage assessments studies in order to identify project affected communities is a great example of this. This step is key to formulating effective CDAs. If Rio Tinto had to create benefit-sharing agreements for the over 11,500 aboriginal people from 198 communities that claimed title to the Argyle mine area, the benefits would have been spread thinly and effective governance would have been impossible. The studies they performed allowed them to narrow down the traditional owners to 22 families from seven aboriginal communities, and establish trusts governed by leaders of those communities. Newmont partnered with the World Bank's International Finance Corporation to design and then audit its Agricultural Improvement and Land Access Program that helped relocated farmers revive their farming livelihoods. Enlisting the IFC allowed Newmont to go the extra mile to ensure that the community could fully recover from being displaced by the mining project.

## Stakeholder justifications for participating in CDA process

Each stakeholder in a resource extraction project needs to understand what he or she stands to gain by supporting community development agreements. CDAs have a distinct appeal to companies, national governments, and communities. Communicating the specific benefits for each stakeholder is key to garnering support for implementing a CDA process. This section will review the reasons why each stakeholder should support CDAs.

**How corporations benefit from CDAs**

As previously discussed, CDAs can form the basis of a corporation's efforts to promote corporate social responsibility (CSR). Specifically, CDAs can help companies earn a social license to operate, which lessens community opposition of the project and decreases the likelihood of a community sabotaging a project. The potentially disastrous effects of community opposition are best illustrated in the case of the Panguna Mine in Papua New Guinea, where community sabotage of the mine and the resulting government response led to civil war. CDAs also have advantages over other forms of CSR: directly negotiating with communities can lead to more effective development projects compared to if the company "guessed" at what form of CSR would satisfy the community. Having an interactive process where communities get to express their needs is important to ensure agreement between the corporation and the community. This process promotes company understanding of communities which lessens the likelihood of future conflicts. The hedging of this potential risk is well worth the delays in project development that may occur due to the time spent throughout the CDA process. Given the potentially disastrous consequences at stake if a community opposes a project, companies should want to take charge of community relations rather than rely on the government as a "middleman." Relying on the national government to speak for project affected communities risks distorting or misrepresenting the community's interests. The national government's interests are not always aligned with that of the community, and the government could see the community's demands as a nuisance and a barrier to a valuable resource-extraction project progressing.

**How national governments benefit from CDAs**

Like corporations, many leaders of national governments are typically motivated to see a resource extraction project advance unobstructed for resource revenues to begin flowing to government. They should therefore be similarly concerned with community approval of projects to lessen opposition to the project and decrease the likelihood of sabotage. assuming that the project is environmentally and social acceptable, this should be the primary motivation for governments to support more effective methods of community engagement such as CDAs. Further, while every government should take responsibility for representing its citizens interests and work to defend those interests, governments may not have the capacity to design specialized development plans for every project-affected community. With the CDA model, however, most of the responsibility to ensure that a project benefits the community falls upon the corporation, not the government. CDAs can also lead to regulations and guidelines that supplement existing national laws, but also provide guidelines where there are none in the national law. These piecemeal commitments made on a project-by-project basis can influence national law. For example, in a country with underdeveloped environmental law, a CDA that stipulates limits on tailing disposal can pave the way for the national government to adopt a national policy on tailing disposal. Local content is another policy area where CDAs can lead the way in the setting of national standards. CDAs that stipulate local employment or contracting quotas can serve as models for national policy that requires a minimum level of local content provisions for any resource extraction project. Such policies are crucial for a project to have compounding positive effects on local economies and to minimize conflict between foreign and local workers.

A government may find the national policy-influencing aspect of NDAs to be a pitfall, however, since the CDA process delegates power to the local level. In highly centralized states where the national government is seeking legitimacy, the CDA process may be exactly the opposite approach they want to take when negotiating a resource development project. Parts of the CDA process rather than the entire concept could apply in these scenarios. The government could perform project-affected community analyses and host community consultations, for example, instead of completely delegating community negotiations to the company.

**How communities benefit from CDAs**

Communities have the most to gain from participating in CDAs, since their purpose is to empower communities by giving them a significant role in the project approval process. Self-representation is especially important in countries where national governments struggle to represent the interests of all their people. The case studies explored in this thesis have shown that national governments are often more concerned with the progression of a resource extraction project and the revenues it can generate than with the communities it might affect. If communities rely on such governments to negotiate community development with corporations, the communities are often underserved and disappointed with the results. CDAs are an alternative to this scenario, as communities can directly negotiate with corporations. When the CDA process is followed according to the best practices outlined in this study, communities can negotiate for several potential benefit sharing arrangements that can transform a community and ensure its development for decades. Communities can also identify and advocate projects they prioritize rather

than having a national government or corporation identify the priority projects. A national government may see construction of a road to be a top priority for a community, whereas the community might be more concerned with the protection of its river. With the proper support mechanisms and resources, communities stand to gain from supporting CDAs to negotiate development results that serve the best interests of the community.

However, a CDA must consider all the political and social dynamics within a community to be successful. The case studies reviewed in this thesis contain examples of how substantial revenue flows to community trusts can amplify existing divisions in a community and create new ones as well. A potential solution to manage theses divisions is to create democratic systems to govern community representation, decision-making, and revenue management with regard to the CDA process.

## Applying Findings to the CDA Process

The findings of this thesis support both voluntary CDAs and government mandated CDAs. The previous section outlines what companies and governments stand to gain from supporting such initiatives. If the CDA is voluntarily created by the company, the process should begin when negotiations with the national government begin as well. This gives the CDA development process equal weight to the project's future as the overarching government fiscal regime negotiations and permitting processes. To further prioritize community relations, a government mandated CDA could stipulate that certain progress on community negotiations must be made before the national government begins to negotiate fiscal regimes and permit terms.

The company should begin all CDA processes by assessing their ability to determine the extent of the project affected community. The assessment will determine whether the company needs to hire external advisors or completely contract out the study. This is a fundamental step that can ensure that the CDA addresses the needs and concerns of all those affected by the project. Once the extent of the project affected community is determined, it is important that the company begins to hold town halls, conduct further social research, and generally better understand the social dynamics in the communities. This additional research can help define the various community groups that are bound to exist such as the business, women's, youth, and religious groups. Each group should be represented in the CDA negotiations and the "community interest" should be seen as a monolithic idea.

Pre-negotiation agreements should only be discussed once the project affected community is defined. A crucial part of these agreements is determining how the CDA process is to be funded. This funding goes to capacity building programs for the local community, fees for external advisers and experts that the community must engage, and cultural awareness training for company staff. Despite the difficulties of coordinating multilateral funding, there are many benefits to having the CDA process funded by a combination of company, government, and NGO funds. Multilateral funding reduces the likelihood that any part of the negotiation process is subject to bias, manipulation, corruption, or misinformation. By partially funding the CDA process, the national government can communicate its interest in seeing the community negotiate a good deal. NGOs that seek to help local community representation and support transparency in the resource industries can make a big impact by supporting CDAs.

The environmental protection and fiscal regime components of a CDA are critical to its success. Negotiators should not shy away from including environmental protection commitments that put more constraints on the company than the national laws do. External advisors are key to a community understanding the cost of a project's pollution and if there is inevitable pollution from a project, the price the company should have to pay to justify it. Fiscal regimes determine the mechanisms for and extent to which the community derives monetary benefit from the project. Communities should negotiate benefit-sharing models that are tied to both the revenues of the project and its production. Such a hybrid model helps the community hedge against fluctuating commodity prices, manipulative company accounting practices, and the potential for projects to enter dormant periods due to market conditions. The destination of benefit-sharing revenue streams, whether it be a trust or a community development fund, is another key component of the fiscal regime. Achieving balanced community representation on the board that manages the trust or fund should be a priority. Strict voting, spending approval, and amendment procedures should be established before funds start to flow to the fund or trust.

The monitoring and enforcement mechanisms of a CDA must be agreed upon before the CDA can be approved by the community. A CDA can be toothless without enforcement and monitoring. Monitoring committees should include community, company, government, and NGO representatives, without giving any party an upper hand in terms of voting power. Penalties that can legitimately change company behavior should be designed, such as financial penalties and a mechanism to petition the national government to revoke a company's permit.

## Conclusions

Community development agreements are effective models for ensuring that communities benefit from resource extraction projects that occur on or adjacent to their lands. When properly designed, CDAs can structure equitable community representation, sustainable benefit-sharing arrangements, environmental protection, local economic growth incentives, and other mechanisms that ensure the project is beneficial to the community. Companies and national governments alike both have incentives to participate in the CDA process. By establishing and sustaining a positive relationship with the community, companies can focus on project management without worrying about a community sabotaging a project. A national government can empower its people to engage with corporations to establish CDAs while the national government works to secure a sustainable fiscal regime with the corporation. Taken together, a project can benefit both the national government and the local community in the same way, rather than the national government reaping all the benefits of resource extraction. The practice of establishing CDAs should be more widespread by both corporations voluntarily developing CDAs, and national governments requiring CDAs by law.

# Works Cited

*Ahafo Social Responsibility Agreement* [Ahafo-Newmont Ghana Gold Ltd. Community Development Agreement]. (2008, May 29).

Aitken, D., Rivera, D., Godoy-Faúndez, A., & Holzapfel, E. (2016). Water Scarcity and the Impact of the Mining and Agricultural Sectors in Chile. *Sustainability, 8*(2), 128. doi:10.3390/su8020128

Andersson, K. P., Gibson, C. C., & Lehoucq, F. (2004). The Politics of Decentralized Natural Resource Governance. *Political Science and Politics, 37*(3), 421-426. Retrieved from http://www.jstor.org/stable/4488855

Arellano-Yanguas, J. (2011). Aggravating the Resource Curse: Decentralisation, Mining and Conflict in Peru. *Journal of Development Studies, 47*(4), 617-638. doi:10.1080/00220381003706478

Aresti, M. L. (2016). *Mineral Revenue Sharing in Peru* (Rep.). Natural Resource Governance Institute.

Australia National Native Title Tribunal. (2005). *Argyle Diamond Mine Participation Agreement: Indigenous Land Use Agreement*. Agreements, treaties and negotiated settlements project.

Barclay, R., & Salam, T. (2015). *Ahafo South Resettlement and Livelihood Restoration Completion Audit Final Report* (Publication No. 12-300).

Bougainville Copper Limited. (n.d.). History of Panguna Mine. Retrieved from http://www.bcl.com.pg/history-panguna-mine/

Rio Tinto. (2016, June 30). *Bougainville Copper Limited shareholding* [Press release]. Retrieved from https://www.riotinto.com/documents/160630_Bougainville_Copper_Limited_shareholding.pdf

Bougainville Region, Papua New Guinea, House of Representatives. (2015). *Bougainville Mining Act 2015*.

Boutilier, R. G. (2014). Frequently asked questions about the social license to operate. *Impact Assessment and Project Appraisal, 32*(4), 263-272. doi:10.1080/14615517.2014.941141

Boutilier, R. G. (2017). A Measure of the Social License to Operate for Infrastructure and Extractive Projects. *SSRN Electronic Journal*. doi:10.2139/ssrn.3204005

Cameron, P. D., & Stanley, M. C. (2017). Oil, Gas, and Mining: A Sourcebook for Understanding the Extractive Industries. *The World Bank Group Extractive*

*Industries Source Book,* 267-277. doi:10.1596/978-0-8213-9658-2

Chevron Policy. (2013, October 11). Ecuador Lawsuit | Chevron. Retrieved from https://www.chevron.com/ecuador/

*Community Development Toolkit* (Publication). (2012). London, UK: International Council on Mining & Metals.

Conciliation Resources. (2015, July 23). The origins of the conflict. Retrieved from https://www.c-r.org/accord-article/origins-conflict

Downey, L., Bonds, E., & Clark, K. (2010). Natural Resource Extraction, Armed Violence, and Environmental Degradation. *Organization & Environment, 23*(4), 417-445. doi:10.1177/1086026610385903

Ewins, R. (n.d.). The Bougainville Conflict. 1999. Retrieved from http://speedysnail.com/pacific/bougainville.html

FAO. (n.d.). Free, Prior and Informed Consent. Retrieved from http://www.fao.org/indigenous-peoples/our-pillars/fpic/en/

Feige, D. (2008, April 20). Pursuing the polluters. Retrieved from https://www.latimes.com/archives/la-xpm-2008-apr-20-op-feige20-story.html

Fernholz, R. M. (2010). Infrastructure and Inclusive Development through “Free, Prior, and Informed Consent” of Indigenous Peoples. In *Physical Infrastructure Development: Balancing the Growth, Equity, and Environmental Imperatives* (pp. 225-258). New York, NY: Palgrave Macmillan.

Fleming, D. A., & Measham, T. G. (2013). Disentangling the Natural Resources Curse: National and Regional Socioeconomic Impacts of Resource Windfalls. *Social and Economic Sciences Research Program,* 1-20.

Forero, J. (2003, October 23). Texaco Goes on Trial in Ecuador Pollution Case. Retrieved from https://www.nytimes.com/2003/10/23/business/texaco-goes-on-trial-in-ecuador-pollution-case.html

Franks, D. M., Davis, R., Bebbington, A. J., Ali, S. H., Kemp, D., & Scurrah, M. (2014). Conflict translates environmental and social risk into business costs. *Proceedings of the National Academy of Sciences, 111*(21), 7576-7581. doi:10.1073/pnas.1405135111

GhanaWeb. (2017, December 05). Newmont Ghana's Akyem mine adjudged 'Best Performer in Environmental Management'. Retrieved from https://www.ghanaweb.com/GhanaHomePage/business/Newmont-Ghana-s-Akyem-mine-adjudged-Best-Performer-in-Environmental-Management-606911#

Human Rights Watch. (2019, March 05). Guinea: Bauxite Mining Boom Threatens Rights. Retrieved from https://www.hrw.org/news/2018/10/04/guinea-bauxite-mining-boom-threatens-rights

Jones, S. (2017, December 14). Women in Ghana Battle a U.S.-Owned Gold Mine for Land and Livelihood. Retrieved from https://www.sierraclub.org/sierra/2018-1-january-february/feature/women-ghana-battle-us-owned-gold-mine-for-land-and-livelihood

Loutit, J., Mandelbaum, J., & Szoke-Burke, S. (2016). Emerging practices in community development agreements. *Journal of Sustainable Development Law and Policy (The), 7*(1), 64. doi:10.4314/jsdlp.v7i1.4

Ghana, Ministry of Mines and Natural Resources. (2012). *Minerals and Mining (Compensation and Resettlement) Regulations*. Accra, Ghana.

*Mining (Bougainville Copper Agreement)* [BCL Contract for Panguna Mine Project]. (1976, February 13).

Moffat, K., & Zhang, A. (2014). The paths to social licence to operate: An integrative model explaining community acceptance of mining. *Resources Policy, 39,* 61-70. doi:10.1016/j.resourpol.2013.11.003

Newmont Africa. (2017). *2017 Sustainability Report: Beyond the Mine Africa Region Summary* (pp. 1-36, Publication). Accra, Ghana: Newmont Ghana Gold.

Newmont Akyem Development Foundation. (2016, February 18). Supporting Needy But Brilliant Students In Mining Communities - The Nakdef Story. Retrieved from http://www.nakdef.org.gh/news/182

Newmont Goldcorp: Community. (n.d.). Retrieved from https://www.newmont.com/operations-and-projects/africa/akyem-ghana/community/default.aspx

Osmundsen, P. (1998). Dynamic Taxation of Non-Renewable Natural Resources under Asymmetric Information about Reserves. *The Canadian Journal of Economics / Revue Canadienne DEconomique, 31*(4), 933. doi:10.2307/136501

Pash, C. (2018, March 29). Australia's biggest diamond mine is running out of diamonds. Retrieved from https://www.businessinsider.com.au/australias-biggest-diamond-mine-is-running-out-of-diamonds-these-are-the-key-players-in-the-race-to-replace-argyle-2018-3

Sustainable Minerals Institute. (n.d.). History of SMI - Sustainable Minerals Institute - University of Queensland. Retrieved from https://smi.uq.edu.au/smi-history

Terminski, B. (2012). Mining-Induced Displacement and Resettlement: Social Problem and Human Rights Issue (a Global Perspective). *SSRN Electronic Journal*. doi:10.2139/ssrn.2028490

UNEP. (2016, May 16). Understanding the Long-Term Impacts of Natural Resource Extraction. Retrieved from https://www.unenvironment.org/news-and-stories/story/understanding-long-term-impacts-natural-resource-extraction

West, M., & Smith, S. (2017, June 27). Diamonds are not forever: Indigenous communities grapple with end of the mining boom. Retrieved from https://www.abc.net.au/news/2017-06-28/indigenous-communities-end-of-mining-boom/8657418

*Why agreements matter* (Rep.). (2016). Rio Tinto.

Wilburn, K. M., & Wilburn, R. (2011). Achieving Social License to Operate Using Stakeholder Theory. *Journal of International Business Ethics, 4*(2), 3-16.

Wilson, C. (2017, April 6). Rio Tinto walks away from environmental responsibility for Bougainville's Panguna mine. Retrieved from https://news.mongabay.com/2017/04/rio-tinto-walks-away-from-environmental-responsibility-for-bougainvilles-panguna-mine/

World Bank. 2009. *The potential social impacts of mining development in Southern Mongolia* (English). Washington, DC: World Bank. http://documents.worldbank.org/curated/en/806871468277494683/The-potential-social-impacts-of-mining-development-in-Southern-Mongolia